AMENDMENTS TO THE CLAIMS

The following is a complete, marked-up listing of revised claims with a status identifier in parenthesis, underlined text indicating insertions, and strike through and/or double-bracketed text indicating deletions.

LISTING OF CLAIMS

1. (Currently Amended) A method to enhance a first CT image composed of a plurality of elements, each element having an intensity value indicative of a tissue type, the method comprising:

receiving the first CT image,

providing, by enhancement processing based on the first CT image, one or more processed CT images, the enhancement processing being performed with respect to at least one predetermined intensity value range, and

combining the first CT image and one or more of the one or more processed CT images or at least two of the processed CT images, whereby an enhanced CT image is provided, the combining being based on a classification with respect to intensity values of regions within at least one of the first CT image and the one or more processed CT images, wherein the combining includes

determining a first region mask for the first CT image or a first of the one or more processed CT images, the first region mask defining an area within the first CT image, or the first of the one or more processed CT images, whose elements have intensity values within a first intensity value range,

determining a respective additional region mask for a second of the one or more of the processed CT images, the respective additional region mask defining an area within the second of the one or more of the processed CT images, whose

elements have intensity values within the at least one predetermined intensity value range, and

combining the first CT image or the first of the one or more processed CT images with the second of the one or more of the processed CT images, weighted by their respective region masks, whereby the enhanced CT image is provided.

2. (Previously Presented) The method of claim 1, further comprising receiving an indication of the at least one predetermined value range and associating the at least one predetermined intensity value range with the one or more of the processed CT images.

3. (Previously Presented) The method of claim 1, wherein the enhancement processing is adaptive to a local structure defined by at least one of the plurality of elements.

4. (Previously Presented) The method of claim 3, wherein the local structure is defined by a group of elements whose intensity values are within the at least one predetermined intensity value range.

5. (Previously Presented) The method of claim 1, wherein the enhancement processing comprises applying a non-linear filter to the one or more of the processed CT images.

6. (Previously Presented) The method of claim 1, wherein the enhancement processing includes at least one of a noise reduction using a low pass filter, a contrast

enhancement using unsharp masking, a rank filtering, an adaptive filtering, a mean-shift filtering, a variational method, a multiband technique and a wavelet technique.

7. (Canceled)

8. (Currently Amended) The method of claim 1[[7]], further comprising prioritizing the first CT image and the one or more of the processed CT images, whereby an element of a CT image having a higher priority is included in the enhanced CT image and a correspondingly located element of a CT image having a lower priority is excluded from the enhanced CT image.

9. (Currently Amended) The method of claim 1[[7]], further comprising smoothing the region masks.

10. (Currently Amended) The method of claim 1[[7]], further comprising normalizing the region masks.

11. (Currently Amended) The method of claim 1[[7]], further comprising subjecting at least one of the region masks to a morphological closing and/or opening algorithm.

12. (Previously Presented) The method of claim 1, wherein the first CT image is selected from one of a two-dimensional array, a three-dimensional array and a four-dimensional array.

13. (Previously Presented) The method as claimed in claim 1, wherein the first CT image is subjected to a second enhancement processing prior to the combining.

14. (Previously Presented) The method as claimed in claim 13, wherein the second enhancement processing is performed with respect to a second predetermined intensity value range.

15. (Previously Presented) A computer readable medium including at least one of programs and program modules to, when executed on a computer, cause the computer to implement the method of claim 1.

16. (Previously Presented) A storage medium having stored thereon a computer-readable medium according to claim 15.

17. (Cancelled).

18. (Currently Amended) A device for enhancing a first CT image composed of a plurality of elements, each element having an intensity value indicative of a tissue type, the device comprising:

receiving ~~means~~unit ~~for~~ configured to ~~receiving~~receive the first CT image,

processing ~~means arranged for~~ unit configured to provide ~~providing~~, by enhancement processing based on the first CT image, one or more processed CT images, the processing means being adapted for enhancement processing with respect to at least one predetermined intensity value range, and

~~means for~~ combining unit configured to combine the first CT image and one or more of the one or more processed CT images or at least two of the processed CT

images, whereby an enhanced CT image is provided, the combining being based on a classification with respect to intensity values of regions within at least one of the first CT image and the one or more of the processed CT images, wherein the combining unit is further configured to

determine a first region mask for the first CT image or a first of the one or more processed CT images, the first region mask defining an area within the first CT image, or the first of the one or more processed CT images, whose elements have intensity values within a first intensity value range,

determine a respective additional region mask for a second of the one or more of the processed CT images, the respective additional region mask defining an area within the second of the one or more of the processed CT images, whose elements have intensity values within the at least one predetermined intensity value range, and

combine the first CT image or the first of the one or more processed CT images with the second of the one or more of the processed CT images, weighted by their respective region masks, whereby the enhanced CT image is provided.

19. (Currently Amended) A method to enhance a first digital image composed of a plurality of elements, each element having an intensity value, the method comprising:

receiving the first digital image,

providing, by enhancement processing based on the first digital image, one or more processed digital images, the enhancement processing being performed with respect to at least one predetermined intensity value range, and

combining the first digital image and one or more of the one or more processed digital images or at least two of the processed ~~CT~~digital images, whereby an enhanced digital image is provided, the combining being based on a classification with respect to

intensity values of regions within at least one of the first image and the one or more of the processed digital images, wherein the combining includes

determining a first region mask for the first digital image or a first of the one or more processed digital images, the first region mask defining an area within the first digital image, or the first of the one or more processed digital images, whose elements have intensity values within a first intensity value range,

determining a respective additional region mask for a second of the one or more of the processed digital images, the respective additional region mask defining an area within the second of the one or more of the processed digital images, whose elements have intensity values within the at least one predetermined intensity value range, and

combining the first digital image or the first of the one or more processed digital images with the second of the one or more of the processed digital images, weighted by their respective region masks, whereby the enhanced digital image is provided.

20. (New) The method of claim 1, further comprising:

prioritizing with respect to the respective intensity value range associated with the images being combined so that in case of overlapping elements after the weighing by the masks, an element belonging to an image having a higher priority is included in the enhanced image and a correspondingly located element of a image having a lower priority is excluded from the enhanced image.

REMARKS

Favorable reconsideration of this application, in light of the preceding amendments and following remarks, is respectfully requested.